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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,544	08/01/2000	KWANG-LEONG CHOY	674505-2011	8846

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EXAMINER

VINCENT, SEAN E

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/555,544

Applicant(s)

CHOY ET AL.

Examiner

Sean E Vincent

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 9, 2003 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 29-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choy et al (WO 97/21848) in view of Blackwell et al (US 6312656).
5. Choy et al teaches apparatus and methods for depositing oxide or ceramic material on a substrate including delivering a stream of precursor droplets, applying an electric field between

the droplet outlet and the substrate and heating the area between the outlet and the substrate to convert the droplets to deposited material (see figures, abstract, pages 1, 2, 4, 5, 7, 17 and Table 1). Choy et al does not teach generating a flame from a burner coaxial with the droplet outlet. Blackwell et al taught combustion processes and apparatus for atomized liquid reactants wherein atomization can be done electrostatically (see col. 8, lines 27-41; col. 8, line 66 to col. 10, line 7 and figure 4). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a fuel/oxygen flame as the heat source in Choy et al because Blackwell et al teaches that it was well known to do so for silica production. Likewise, It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply an electric field in the arrangement of Blackwell et al because Choy et al taught that it would guide the droplets to the substrate more efficiently. Disclosure of electrostatic atomization in Blackwell et al would also have suggested the use of an electric field in the area of the burner.

6. Choy et al does not teach the claimed sequence of annular gas jets. Blackwell et al taught the use of inert shield gas between liquid precursor droplets and an outer, annular fuel gas jet. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to arrange the coaxial burner conduits and gas jets as claimed because Blackwell et al taught that it would have been helpful in properly converting liquid feedstock to silica.

Response to Arguments

7. Applicant's arguments filed May 9, 2003 have been fully considered but they are not persuasive.

8. In response to the argument that Blackwell et al did not teach an annular flame combustion region, the examiner disagrees. Applicant's attention is drawn to paragraph 5 in the above rejection and the cited prior art. Specifically, col. 9, lines 6-40 of Blackwell et al elaborate on the structure and use of the burner illustrated in figure 4. It should be noted that the shape of the flame in figure 4 of Blackwell et al cannot be relied upon to determine the shape of the prior art flame. Since Blackwell et al teaches that the fuel is introduced only through the outermost concentric opening shown in figure 4, the combustion zone within the flame of Blackwell et al is necessarily annular. Blackwell et al also states that "burner buildup" is to be avoided by introducing inert gas around the feedstock. This is a clear teaching that the combustion, chemical reaction and feedstock decomposition is meant to take place away from the burner face. The applicant has failed to show where Blackwell et al states "a single continuous flame area", relying solely on the illustration of a flame in figure 4.

9. In response to the arguments filed May 9, 2003 that the above statements acknowledge that figure 4 of Blackwell et al shows a 'continuous flame combustion region', the examiner disagrees. The phrase 'continuous flame combustion region' cannot be found in the examiner's responses or in Blackwell et al, even where reference number 23 (the flame) of figure 4 is described. The applicant is placing an undue amount of weight on the abstract representation of a flame in figure 4 of Blackwell et al. As stated above, Blackwell et al provides several suggestions from the description that would lead a person of ordinary skill in the art to expect the flame to be annular. The applicant has provided nothing more than circular arguments using the citations in the previous paragraph to allege that a 'continuous flame combustion region' must be present to make the inert gas introduction necessary.

10. Applicant has not disputed the examiner's statements of motivation for combining Blackwell et al and Choy et al. Instead of discussing the supposed errors in the examiner's motivational statements, the applicant has merely asserted that "there is no motivation to combine...." This is tantamount to acquiescence with both the motivation to combine Blackwell et al with Choy et al and vice versa, as outlined in the rejection.

11. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

12. This is a continuation of applicant's earlier Application No. 09/555544. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

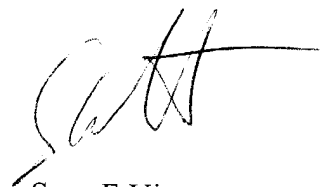
13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E Vincent whose telephone number is 703-305-3607. The examiner can normally be reached on M - F (8:30 - 6:00) Second Monday Off.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P Griffin can be reached at 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

16. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
June 8, 2003